

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK I. GARDNER, DIM-LEE KWONG,
and H. JIM FULFORD JR.

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U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 2003-2079
Application No. 09/207,972

ON BRIEF

Before WALTZ, TIMM, and MOORE, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 16 through 21, 23, 30 and 31. The claims remaining in this application are claims 24 through 29, 32 and 33, which stand allowed by the examiner, and claim 22, which was objected to by the examiner as dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims (final Office action dated Nov. 19, 2002, Paper No. 16, page 3). We have jurisdiction pursuant to 35 U.S.C. § 134.

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According to appellants, the invention is directed to a semiconductor device with a graded-K gate dielectric, including a low-trap-density nitrogen-containing oxide layer, with a gate conductor above the dielectric material, to yield favorable interface properties between the dielectric and the semiconductor substrate (Brief, page 3). Illustrative independent claim 16 is reproduced below:

16. A semiconductor device, comprising:

- a low-trap-density nitrogen-containing oxide arranged upon an upper surface of a semiconductor substrate;
- a high-K dielectric having a dielectric constant greater than about 5 arranged upon the nitrogen-containing oxide; and
- a gate conductor arranged above the high-K dielectric.

The examiner relies upon the following references as evidence of obviousness:

Wu	5,880,508	Mar. 09, 1999
Chou	5,994,734	Nov. 30, 1999
Kizilyalli et al.	6,320,238 B1	Nov. 20, 2001
(Kizilyalli '238, filed Jun. 25, 1999; continuation-in-part of application No. 08/995,435 (Kizilyalli '435 application), filed on Dec. 22, 1997; provisional application No. 60/033,839, filed on Dec. 23, 1996)		

Claims 16-19, 21, 23, 30 and 31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kizilyalli '238 in view of Wu (Answer, page 4). Claim 20 stands rejected under 35 U.S.C.

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§ 103(a) as unpatentable over Kizilyalli '238 in view of Wu and Chou (*id.*). We reverse both of the examiner's rejections on appeal essentially for the reasons stated in the Brief and Reply Brief and those reasons set forth below. Furthermore, we *remand* this application to the jurisdiction of the examiner for action consistent with our remarks below.

OPINION

The examiner presents findings of fact and conclusions of law regarding Kizilyalli '238, Wu and Chou on pages 4-5 of the Answer. Appellants do not contest these findings or conclusions (see the Brief and Reply Brief in their entirety). The sole argument advanced by appellants is that the primary reference to Kizilyalli '238 "does not qualify as prior art" (Brief, pages 4-5; Reply Brief, pages 2-3). As noted by appellants, Kizilyalli '238 was filed on June 25, 1999, after the filing date of this application (Dec. 9, 1998), and is only available as prior art if the '238 patent is accorded the effective filing date of its parent, the Kizilyalli '435 application, filed on Dec. 22, 1997 (*id.*).

The examiner states that Kizilyalli '238 "has an effective filing date of December 22, 1997." Answer, page 5. The initial burden of establishing a *prima facie* case of obviousness, and thus establishing that the reference applied is available as prior art,

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rests with the examiner. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The examiner states that whether the parent patent to Kizilyalli¹ supports the limitations of Kizilyalli '238 is "irrelevant" to the present claims (Answer, page 5). As correctly stated by appellants (Brief, page 4), this is clear error since, to be entitled to the filing date of the Kizilyalli '435 application, the claims of Kizilyalli '238 must be disclosed pursuant to 35 U.S.C. §§ 120/112 in this parent application. See *In re Wertheim*, 646 F.2d 527, 538-39, 209 USPQ 554, 565-66 (CCPA 1981) (Patent Office that wishes to utilize against applicant part of patent disclosure found in application filed earlier than date of application that became patent must demonstrate that earlier-filed application contains Sections 120/112 support for invention claimed in reference patent). See also MPEP, §2136.03, IV, 8th ed., Rev. 1, Feb. 2003; cf., *Ex parte Ebata*, 19 USPQ2d 1952, 1954 (Bd. Pat. App. & Int. 1991).

As also correctly stated by appellants, there are two limitations in the claims of Kizilyalli '238 that are not supported

¹The Kizilyalli '435 application has now issued as U.S. Patent No. 6,548,854 B1 (the '854 patent). See the Answer, page 5, and the Reply Brief, page 3.

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in the Kizilyalli '435 application (Brief, page 4).² The examiner has failed to establish where these two claimed limitations are supported, under sections 120/112, by the parent Kizilyalli application '435. Accordingly, the examiner has not established that Kizilyalli '238 should be accorded the effective filing date of Dec. 22, 1997. Therefore Kizilyalli '238 only has an effective filing date of June 25, 1999, and is not available as prior art to reject the claims on appeal. Thus we cannot sustain the examiner's rejections based on Kizilyalli '238.

The decision of the examiner is reversed.

REMAND

As discussed above, the Kizilyalli '435 application was issued as the '854 patent on Apr. 15, 2003 (Answer, page 5; Reply Brief, page 3). As stated by the examiner (Answer, page 6), the claimed subject matter on appeal is obvious over "the Kizilyalli parent patent" in combination with Wu and Chou. Appellants and the examiner have previously agreed that the effective filing date of the Kizilyalli '435 application (now the '854 patent) establishes

²These two limitations are found in claim 1 ("said dielectric material layer having an equivalent electrical thickness of 2.2 nm or less") and claim 11 ("an electrode disposed directly on said at least one layer of high-k dielectric material").

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that this patent is available as prior art against the claims on appeal (Answer, page 5; Brief, page 4; Reply Brief, page 3). Accordingly, we remand this application to the jurisdiction of the examiner for appellants and the examiner to reconsider the patentability of the claimed subject matter in view of Kizilyalli '854, Wu and Chou. Prosecution must be reopened if any new ground of rejection is entered by the examiner. See 37 CFR § 1.193 (2000).

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This application, by virtue of its "special" status, requires an immediate action, MPEP § 708.01, (D).

REVERSED & REMANDED

Thomas A. Waltz

THOMAS A. WALTZ
Administrative Patent Judge

Catherine Timm
CATHERINE TIMM
Administrative Patent Judge

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APPEALS
AND
INTERFERENCES

James T. Moore

JAMES T. MOORE
Administrative Patent Judge

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